

California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

For Selected Projects Awarded Funding Through
the Alternative and Renewable Fuel and Vehicle
Technology Program Under Solicitation GFO-17-
607 – School Bus Replacement for California Public
School Districts, County Offices of Education, and
Joint Power Authorities

California Energy Commission

Gavin Newsom, Governor

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to “develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.” Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (CARB) to develop guidelines to ensure air quality improvements. The CARB’s Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program*. The guidelines require the California Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343).

This Localized Health Impacts Report analyzes and reports on the potential health impacts to communities from projects seeking Energy Commission funding. Information submitted by project funding applicant(s) is used in this report to help identify communities at a higher risk of adverse health effects from pollution. As provided by 13 CCR § 2343, this Localized Health Impacts Report is required to be available for public comment for 30 days prior to the approval of projects

Keywords: Air pollution, air quality improvement program (AQIP), alternative fuels, California Air Resources Board (CARB), Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), compressed natural gas (CNG), Environmental justice indicators (EJ), Environmental Justice Screening Method (EJSM), localized health impacts (LHI), School Bus Program

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343)*, this Localized Health Impacts Report (LHI report) describes the alternative fuel infrastructure project proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may require a conditional or discretionary permit or environmental review such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This LHI report does not include projects that require only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are outside the scope of this LHI report.

The California Energy Commission is required to assess the local health impacts of projects proposed for ARFVTP funding. This LHI report focuses on the potential health impacts to communities from project-related emissions or pollution. Project locations where communities potentially have a higher risk of adverse health impacts from pollution are identified as *high-risk community project locations*. High-risk communities are identified using demographic data with environmental data for air quality from the California Air Resources Board.

Environmental justice communities, low-income communities, and minority communities are considered the most impacted by any project that could result in increased criteria and toxic air pollutants within an area. Preventing or minimizing health risks from pollution is vital in any community, but it is especially important for communities already considered to be at high risk due to preexisting poor air quality and other prevalent factors.

The California Energy Commission proposes to fund projects that replace old diesel school buses with compressed natural gas (CNG) and electric buses. Infrastructure funding was also made available to support the awarded buses. Six school districts, one joint power of authority, and one elementary school district were initially proposed to receive Energy Commission funds for new CNG buses. Five school districts were also proposed to receive funding for CNG infrastructure to accommodate the awarded buses.

This LHI report has assessed the potential project-related health impacts to communities in 18 cities identified under solicitation GFO-17-607. Based on Energy Commission staff analysis, there are no anticipated adverse health impacts to local communities affected by the proposed projects. These projects stand to provide improved quality of life by reducing unhealthy diesel school bus-generated emissions, bringing cleaner air to schoolchildren, and providing new jobs to the communities that each proposed awardee serves.

CHAPTER 1:

Projects Proposed for Funding

On May 31, 2018, the California Energy Commission released a grant solicitation titled “School Bus Replacement for California Public School Districts, County Offices of Education, and Joint Power Authorities” (GFO-17-607) under the Clean Energy Job Creation Program and the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). The ARFVTP component of the GFO-17-607 solicitation has two subcomponents. The first subcomponent is an offer to fund projects that replace the oldest diesel school buses in California with compressed natural gas (CNG) buses and to provide infrastructure support for the CNG school buses awarded under this solicitation. The second subcomponent is to provide awardees with to replace old diesel school buses with new electric school buses, and to provide infrastructure support if needed.

On November 29, 2018, the Energy Commission posted the notice of proposed awards (NOPA) for GFO-17-607,¹ resulting in eight applicants proposed to receive funding awards (proposed awardees) toward the purchase of CNG school buses and CNG infrastructure projects. On February 6, the Energy Commission published a revised NOPA to announce modifications to the proposed award.² This Localized Health Impacts Report (LHI report) assesses and reports on the potential localized health impacts to the communities identified for this solicitation. An additional revised NOPA is expected once the electric school bus component of this solicitation allocates the remaining grant funding available under this solicitation. A 30-day public review and comment period applies to this LHI report from the date of publishing.³

The proposed awardees expected to receive CNG school bus funding under GFO-17-607 are listed in Table 1. Some schools districts applied for funding as a joint power of authority (JPA), which can include more than one school or school district per JPA. Environmental justice (EJ) indicators⁴ are used by Energy Commission staff to identify high-risk community projection locations. Staff EJ indicator definitions are found in Appendix A of this LHI report.

The “Storage and Refueling Location” category in Table 1 are the locations submitted by the proposed awardees on where the awarded CNG school buses will be stored and

1 <https://www.energy.ca.gov/contracts/transportation.html#GFO-17-607>.

2 https://www.energy.ca.gov/contracts/GFO-17-607_revised_NOPA.pdf.

3 <https://www.energy.ca.gov/altfuels/documents/index.html>

4 EJ indicators developed by the United States Environmental Protection Agency (U.S. EPA), Office of Policy. Available at <https://www.epa.gov/ejscreen/environmental-justice-indexes-ejscreen>.

fueled during nonworking hours. Raisin City School District (SD), Washington Unified School District (USD), and West Park Elementary will share the same storage and refueling location for the awarded CNG school buses.

Table 1: Project Details Along With EJ Indicators

Proposed Awardee	Award Details	Storage & Refueling Location	EJ Indicators
Antelope Valley Schools Transportation Agency (JPA)	6 CNG School Buses & CNG Infrastructure Funding	670 W Avenue L8 Lancaster, CA 93534	Poverty, Minority, and Unemployment
Elk Grove Unified School District	3 CNG School Buses & CNG Infrastructure Funding	8421 Gerber Road Sacramento, CA 95828	Poverty and Unemployment
Lake Elsinore Unified School District	6 CNG School Buses & CNG Infrastructure Funding	21641 Bundy Canyon Road Wildomar, CA 92595	Poverty, Minority, and Unemployment
North Monterey County Unified School District	2 CNG School Buses & CNG Infrastructure Funding	17590 Pesante Road Salinas, CA 93907	Poverty, Minority, and Unemployment
Palo Verde Unified School District	3 CNG School Buses & CNG Infrastructure Funding	Storage: 187 N 7 th Street Blythe, CA 92225	Poverty and Minority
		Refueling: 440 S Main Street Blythe, CA 92225	
Raisin City School District	1 CNG School Bus	16644 S Elm Avenue Caruthers, CA 93609	Poverty and Minority
Washington Unified School District	3 CNG School Buses	16644 S Elm Avenue Caruthers, CA 93609	Poverty, Minority, and Unemployment
West Park Elementary	1 CNG School Bus	16644 S Elm Avenue Caruthers, CA 93609	Poverty, Minority, and Unemployment

Source: California Energy Commission staff

CNG school bus-related infrastructure projects will occur at the storage and refueling locations proposed by Energy Commission staff to receive CNG infrastructure funding. Infrastructure projects under this solicitation fall under prevailing wage⁵ project requirements for construction projects. These requirements are an added benefit to these local communities, as staff identifies poverty and unemployment EJ indicators where the proposed infrastructure projects are located.

Public Comment

As provided by Title 13, Section 2343 of the California Code of Regulations, a 30-day public review period applies to this LHI report from the date it is posted on the Energy

⁵ See 8 C.C.R. § 16100(c) enumerating obligations for contractors and subcontractors under California prevailing wage law.

Commission website. The original posting date for this report is listed at:

<https://www.energy.ca.gov/altfuels/documents/index.html>

The Energy Commission encourages comments by email. Please include your name or organization's name in the name of the file. Send comments in either Microsoft® Word format (.doc) or in Adobe® Acrobat® format (.pdf) to FTD@energy.ca.gov.

The public can email comments to FTD@energy.ca.gov or send them to:

California Energy Commission
Fuels and Transportation Division
1516 Ninth Street, MS-44
Sacramento, CA 95814-5512

All written comments will become part of the public record and may be posted to the Internet.

News media should direct inquiries to the Media and Public Communications Office at (916) 654-4989, or by e-mail at mediaoffice@energy.ca.gov.

CHAPTER 2:

Project Information and Emission Reductions

The Energy Commission offered GFO-17-607 applicants grant funding for projects to replace their oldest diesel school buses with new compressed natural gas (CNG) school buses. Up to \$165,000 per bus will be made available toward the purchase of a new CNG school bus (using the proposed awardees established procurement procedure) and an additional \$500,000 for CNG infrastructure to accommodate the new CNG school buses.

Replacing old diesel school buses with CNG school buses will benefit local communities by reducing pollutants such as nitrogen oxides (NO_x), and particulate matter (PM)⁶ from diesel school buses. CNG-powered vehicles emit less NO_x and PM compared to diesel-powered vehicles. Energy Commission staff has analyzed these potential emissions reductions by using an emission factor model (EMFAC)⁷ developed by the California Air Resource Board (CARB) to assess pollution emissions from on-road vehicles. EMFAC per-mile emission rates of a Model Year 2005 diesel-powered school bus are compared to the emission rates of a Model Year 2019 CNG school bus to provide a baseline for staff's emissions analysis.

Antelope Valley Schools Transportation Agency

The proposed awardee Antelope Valley Schools Transportation Agency (Antelope Valley) represents school districts in Los Angeles County. This agency operates as a JPA servicing the following schools:

- Antelope Valley Union High, 44811 N Sierra Hwy, Lancaster, California 93534
- Keppel Union Elementary, 34004 128th Street East, Pearblossom, California 93553
- Lancaster Elementary, 44711 N Cedar Avenue, Lancaster, California 93534
- Westside Union Elementary, 41914 50th Street W, Quartz Hill, California 93536

The Energy Commission has proposed to award funding for six new CNG school buses to replace the agency's old diesel school buses (model year range of 1990-1992). An additional \$100,000 toward a CNG infrastructure project at 670 W Avenue L8 in Lancaster was also awarded. Antelope Valley proposes to install new slow-fill

⁶ *Particulate matter* is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled. The number following "PM" represents particle size in microns.

⁷ See <https://www.arb.ca.gov/msei/categories.htm>.

dispensers,⁸ trenching or aboveground pipework, and concrete work. Antelope Valley expects that all six CNG school buses combined will drive roughly 60,000 miles annually. Table 2 shows the yearly emissions reductions based on the mileage data given.

Table 2: Antelope Valley Schools Transportation Agency Expected Annual Emissions Reductions

Cities Served	Bus Year and Type Displaced	CNG Buses Awarded Funding	Estimated Annual Miles	NOx Reductions* (pounds per year)	PM 2.5 Reductions (pounds per year)	PM 10 Reductions (pounds per year)
Lancaster, Pearblossom, and Quartz Hill	1) 1990, Diesel 2) 1990, Diesel 3) 1990, Diesel 4) 1992, Diesel 5) 1992, Diesel 6) 1992, Diesel	6	60,000	835.70	3.21	5.81

Source: Energy Commission staff and CARB. *Reductions based on the EMFAC emissions difference between a 2005 diesel school bus compared to a 2019 CNG school bus when both are driven the same number of estimated annual miles

Elk Grove Unified School District

The proposed awardee Elk Grove USD provides school bus services primarily within Sacramento County. The Energy Commission has proposed to award funding for three new CNG school buses to replace its old diesel school buses (Model Year 1990). An additional \$500,000 toward a CNG infrastructure project at 8421 Gerber Road in Sacramento was also awarded. Elk Grove USD proposes to use the infrastructure funds to replace (or retrofit if possible) its existing CNG station gas dryer,⁹ cooling system, fast-fill dispenser,¹⁰ and other upgrades. All three new CNG school buses are expected to drive an estimated 54,000 miles annually. Table 3 shows the yearly emissions reductions based on the mileage data given.

8 *Slow-fill dispensers* (sometimes called time-fill) are a type of fuel dispensers that delivers CNG from a gas line source to a CNG vehicle via an on-site compressor unit.

9 Gas dryers are used to prevent fueling system blockages by removing water vapor from the CNG source before being stored or dispensed.

10 *Fast-fill dispensers* are a type of CNG fuel dispensers that delivers CNG fuel from pressurized storage tanks to a CNG vehicle at higher pressures and a faster rate when compared to a slow- or time-fill CNG fuel dispenser.

Table 3: Elk Grove Unified School District Expected Annual Emissions Reductions

Cities Served	Bus Year and Type Displaced	CNG Buses Awarded Funding	Estimated Annual Miles	NOx Reductions* (pounds per year)	PM 2.5 Reductions (pounds per year)	PM 10 Reductions (pounds per year)
Elk Grove, Rancho Cordova, Sacramento, Sloughhouse, and Wilton	1) 1990, Diesel 2) 1990, Diesel 3) 1990, Diesel	3	54,000	752.13	2.89	5.23

Source: Energy Commission staff and CARB. *Reductions based on the *EMFAC* emissions difference between a 2005 diesel school bus compared to a 2019 CNG school bus when both are driven the same number of estimated annual miles

Lake Elsinore Unified School District

The applicant Lake Elsinore USD provides school bus services primarily within Riverside County. The Energy Commission has proposed to award funding for six new CNG school buses to replace the district's old diesel school buses (Model Year 1990). The Energy Commission awarded an additional \$500,000 toward a CNG infrastructure project at 21641 Bundy Canyon Road in Wildomar. Lake Elsinore USD proposes to use the infrastructure funds to upgrade its compressor fueling capacity, install fast-fill dispensers, perform electrical work, install trenches, and perform other upgrades. All six CNG school buses are expected to drive an estimated 165,000 miles annually. Table 4 shows the yearly emissions reductions based on the mileage data given.

Table 4: Lake Elsinore Unified School District Expected Annual Emissions Reductions

Cities Served	Bus Year and Type Displaced	CNG Buses Awarded Funding	Estimated Annual Miles	NOx Reductions* (pounds per year)	PM 2.5 Reductions (pounds per year)	PM 10 Reductions (pounds per year)
Corona, Lake Elsinore, and Wildomar	1) 1990, Diesel 2) 1990, Diesel 3) 1990, Diesel 4) 1990, Diesel 5) 1990, Diesel 6) 1990, Diesel	6	165,000	2,298.16	8.84	15.97

Source: Energy Commission staff and CARB. *Reductions based on the *EMFAC* emissions difference between a 2005 diesel school bus compared to a 2019 CNG school bus when both are driven the same number of estimated annual miles

North Monterey County Unified School District

The proposed awardee North Monterey County USD provides school bus services primarily within Monterey County. The Energy Commission has proposed to award funding for two new CNG school buses to replace the district's old diesel school buses (Model Year 1988). The Energy Commission awarded an additional \$500,000 toward a CNG infrastructure project at 17590 Pesante Road in Salinas. North Monterey USD proposes to use the infrastructure funds to construct a new CNG refueling station. Minor trenching will be required for a gas line extension to the new CNG equipment that will be installed. The two new CNG school buses are expected to drive an estimated

28,000 miles annually. Table 5 shows the yearly emissions reductions based on the mileage data given.

Table 5: North Monterey County Unified School District Expected Annual Emissions Reductions

Cities Served	Bus Year and Type Displaced	CNG Buses Awarded Funding	Estimated Annual Miles	NOx Reductions* (pounds per year)	PM 2.5 Reductions (pounds per year)	PM10 Reductions (pounds per year)
Castroville, Pacific Grove, Salinas	1) 1988, Diesel 2) 1988, Diesel	2	28,000	389.99	1.50	2.71

Source: Energy Commission staff and CARB. *Reductions based on the *EMFAC* emissions difference between a 2005 diesel school bus compared to a 2019 CNG school bus when both are driven the same number of estimated annual miles

Palo Verde Unified School District

The proposed awardee Palo Verde USD provides school bus services primarily within Riverside County. The Energy Commission has proposed to award funding for three new CNG school buses to replace the district's old diesel school buses (model year range 1988-1990). The Energy Commission awarded an additional \$500,000 toward a CNG infrastructure project at 440 S Main Street in Blythe. Palo Verde USD proposes to use the infrastructure funds to upgrade its existing CNG infrastructure. The proposed upgrades will improve existing compressors, increase storage capacity, and install three new slow-fill dispensers. All three new CNG school buses are expected to drive an estimated 23,315 miles annually. Table 6 shows the yearly emissions reductions based on the mileage data given.

Table 6: Palo Verde Unified School District Expected Annual Emissions Reductions

Cities Served	Bus Year and Type Displaced	CNG Buses Awarded Funding	Estimated Annual Miles	NOx Reductions* (pounds per year)	PM 2.5 Reductions (pounds per year)	PM 10 Reductions (pounds per year)
Blythe	1) 1988, Diesel 2) 1990, Diesel 3) 1990, Diesel	3	23,315	324.74	1.25	2.26

Source: Energy Commission staff and CARB. *Reductions based on the *EMFAC* emissions difference between a 2005 diesel school bus compared to a 2019 CNG school bus when both are driven the same number of estimated annual miles

Raisin City School District

The proposed awardee Raisin City SD provides school bus services primarily within Fresno County. The Energy Commission has proposed to award funding for one new CNG school bus to replace the district's old diesel school bus (Model Year 1992). The proposed awardee did not request additional infrastructure funding. The new CNG

school bus is expected to drive an estimated 17,000 miles annually. Table 7 shows the yearly emissions reductions based on the mileage data given.

Table 7: Raisin City School District Expected Annual Emissions Reductions

Name	Cities Served	Bus Year and Type Displaced	CNG Buses Awarded Funding	Estimated Annual Miles	NOx Reductions* (pounds per year)	PM 2.5 Reductions (pounds per year)	PM10 Reductions (pounds per year)
Raisin City School District	Raisin City	1992, Diesel	1	17,000	236.78	0.91	1.65

Source: Energy Commission staff and CARB. *Reductions based on the *EMFAC* emissions difference between a 2005 diesel school bus compared to a 2019 CNG school bus when both are driven the same number of estimated annual miles

Washington Unified School District

The proposed awardee Washington USD provides school bus services primarily within Fresno County. The Energy Commission has proposed to award funding for three new CNG school buses (the proposed awardee will receive partial funding of \$60,529 for one of the three CNG school buses) to replace the district's old diesel school buses (Model Years 1990-1996). The proposed awardee did not request additional infrastructure funding. All three new CNG school buses awarded are expected to drive an estimated 49,500 miles annually. Based on the mileage data given, the yearly emissions reductions are in Table 8 below.

Table 8: Washington Unified School District Expected Annual Emissions Reductions

Cities Served	Bus Year and Type Displaced	CNG Buses Awarded Funding	Estimated Annual Miles	NOx Reductions* (pounds per year)	PM 2.5 Reductions (pounds per year)	PM 10 Reductions (pounds per year)
Fresno	1) 1990, Diesel 2) 1990, Diesel 3) 1996, Diesel	3	49,500	689.45	2.65	4.49

Source: Energy Commission staff and CARB. *Reductions based on the *EMFAC* emissions difference between a 2005 diesel school bus compared to a 2019 CNG school bus when both are driven the same number of estimated annual miles

West Park Elementary

The proposed awardee West Park Elementary provides school bus services primarily within Fresno County. The Energy Commission has proposed to fund one new CNG school bus to replace the district's old diesel school bus (Model Year 1996). The proposed awardee did not request additional infrastructure funding. The new CNG school bus is expected to drive an estimated 11,500 miles annually. Table 9 shows the yearly emissions reductions based on the mileage data given.

Table 9: West Park Elementary Expected Annual Emissions Reductions

Cities Served	Bus Year and Type Displaced	CNG Buses Awarded Funding	Estimated Annual Miles*	NOx Reductions** (pounds per year)	PM 2.5 Reductions (pounds per year)	PM10 Reductions (pounds per year)
Fresno	1) 1996, Diesel	1	11,500	160.18	0.62	1.11

Source: Energy Commission staff and CARB. *Reductions based on the *EMFAC* emissions difference between a 2005 diesel school bus compared to a 2019 CNG school bus when both are driven the same number of estimated annual miles

CHAPTER 3:

Location Analysis

Under the *California Code of Regulations Title 13, (CCR § 2343)*, this LHI report describes school bus replacement project proposed for ARFVTP funding that may require a conditional permit, discretionary permit, or a California Environmental Quality Act (CEQA) review. The Energy Commission interprets “permits” to suggest discretionary and conditional use permits because they require a review of potential impacts to communities and the environment before issuance. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, Energy Commission staff does not assess projects requiring only ministerial-level permits in this report.

This LHI report analyzes project location by applying staff interpretation of the Environmental Justice Screening Method (EJSM).¹¹ Proposed project locations must meet a two-part environmental and demographic standard for staff to identify it as a high-risk community project location. The environmental standard uses CARB air quality monitoring data on nonattainment zones¹² for areas with a high concentration of air pollutants. The demographic standard applies data from the Employment Development Department’s *Monthly Labor Force Data*¹³ and the U.S. Census Bureau’s *American Community Survey*¹⁴ data on age, poverty, race, and unemployment.

Environmental Standard

Based on CARB air quality monitoring data,¹⁵ staff has identified the following project cities as within designated nonattainment zones for either ozone, PM 2.5 or PM 10: Blythe, Castroville, Corona, Elk Grove, Fresno, Lake Elsinore, Lancaster, Pacific Grove, Pearblossom, Quartz Hill, Raisin City, Rancho Cordova, Sacramento, Salina, Sloughhouse, Wildomar, and Wilton. These communities have met staff’s environmental standard for poor air quality by having potentially high concentration levels of air pollutants for their designated areas.

11 California Air Resources Board, *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*, 2010. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

12 *Nonattainment zones* (or status) are areas designated by the California Air Resources Board with at least one violation of an air quality standard for pollutants within the last three years, as of November 2017.

13 <https://www.labormarketinfo.edd.ca.gov/file/lfmonth/countyur-400c.pdf>.

14 https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml.

15 <https://www.arb.ca.gov/desig/adm/adm.htm>.

Demographic Standard

The demographic information for the communities identified under grant solicitation GFO-17-607 is listed in Table 10 by city name. If a project within a nonattainment zone has more than one EJ indicator (shown in Table 1), staff will identify it as a high-risk community project location. The city name of a high-risk community will be listed in Table 10 with red font, and the percentage value of the EJ indicator threshold(s) exceeded will be highlighted yellow. For example, staff identified the project location in Blythe as a high-risk community project location because it is within a nonattainment zone for poor air quality (that is, the environmental standard), exceeds the EJ indicator threshold for poverty level, and exceeds the EJ indicator threshold for large minority populations of Hispanic or Latino (that is, the demographic standard). For more information on the EJSM and EJ indicator criteria, please see Appendix A of this LHI report.

Table 10: EJ Indicators and Demographic by Project City

	Below the Poverty Level (2017)	Black or African American (2017)	American Indian and Alaska Native (2017)	Asian and Pacific Islander (2017)	Hispanic or Latino (2017)	Persons Under 5 Years of Age (2017)	Persons Over 65 Years of Age (2017)	Unemployment (December 2018)
California	11.1%	5.8%	0.7%	14.5%	38.8%	6.4%	13.3%	4.1%
EJ Indicator Threshold	>11.1%	>30%	>30%	>30%	>30%	≥26.4%	≥33.3%	>4.1%
Blythe	24.5%	13.1%	0.6%	2.5%	55.9%	6.2%	9.1%	4.1%
Caruthers	18.0%	0.0%	0.0%	1.8%	76.9%	7.7%	13.2%	8.1%
Castroville	21.5%	0.9%	0.0%	2.4%	87.3%	11.1%	7.9%	8.1%
Corona	10.5%	5.2%	0.4%	12.1%	43.7%	6.6%	9.6%	4.1%
Elk Grove	7.1%	11.1%	0.7%	29.9%	18.6%	6.4%	11.3%	3.7%
Fresno	23.2%	7.8%	1.1%	13.7%	49.1%	8.7%	10.4%	7.5%
Lake Elsinore	13.3%	4.8%	0.3%	5.4%	52.1%	8.7%	6.3%	7.5%
Lancaster	19.3%	21.7%	0.6%	4.4%	39.0%	7.7%	9.7%	4.1%
Pacific Grove	3.0%	1.3%	0.4%	5.0%	11.0%	3.9%	26.3%	4.6%
Pearblossom*	13.3%	8.2%	0.7%	14.8%	48.4%	6.3%	12.5%	8.1%
Quartz Hill	15.9%	7.6%	1.4%	3.8%	31.6%	5.3%	12.4%	4.6%
Raisin City	50.0%	0.0%	0.0%	0.0%	68.1%	3.8%	18.9%	4.6%
Rancho Cordova	11.6%	9.3%	0.6%	13.2%	21.6%	7.5%	11.3%	7.5%
Sacramento	15.3%	13.4%	0.7%	18.7%	28.3%	6.8 %	12.2%	3.7%
Salinas	14.8%	1.4%	0.6%	6.1%	77.2%	9.0%	8.5%	8.1%
Sloughhouse*	12.6%	9.9%	0.7%	16.4%	22.8%	6.6%	13.0%	3.7%
Wildomar	9.3%	4.8%	1.1%	5.0%	40.0%	6.5%	11.9%	4.1%
Wilton	6.3%	2.3%	0.4%	2.5%	21.9%	2.5%	21.6%	3.7%

Sources: California Energy Commission staff, Employment Development Department, and U.S. Census Bureau.

*The city/county names in red indicate a high-risk community, while the yellow highlighted percentages indicate which categories exceed the EJ indicator threshold. **An asterisk (*) may signify a default to county-level data

CHAPTER 4:

Analysis Summary

Many of the proposed awardees are agencies such as school districts, which serve multiple cities and communities. For the LHI reporting summary, each proposed awardee that receives Energy Commission funding for a new CNG school bus (and infrastructure funding if applicable) is a project for LHI reporting. The projects for Antelope Valley, Elk Grove USD, Lake Elsinore USD, North Monterey County USD, Palo Verde USD, Raisin City SD, Washington USD, and West Park Elementary are identified as high-risk community project locations. Based on staff analysis, there are no anticipated adverse health impacts on local communities from implementing these projects. The projects stand to provide improved quality of life by reducing unhealthy diesel school bus-generated emissions and promoting cleaner air to the communities each proposed awardee serves.

GLOSSARY

AIR QUALITY IMPROVEMENT PROGRAM - Established by the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (AB 118, Statutes of 2007, Chapter 750), is a voluntary incentive program administered by CARB to fund clean vehicle and equipment projects, research of biofuels production.

AIR POLLUTANT - Amounts of foreign or natural substances occurring in the atmosphere that may result in adverse effects to humans, animals, vegetation, or materials or any combination thereof.

CALIFORNIA CODE OF REGULATIONS - The official compilation and publication of the regulations adopted, amended or repealed by state agencies pursuant to the Administrative Procedure Act (APA). Properly adopted regulations that have been filed with the Secretary of State have the force of law.

CALIFORNIA ENVIRONMENTAL QUALITY ACT - A statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.

COMPRESSED NATURAL GAS - A pressurized hydrocarbon gas composed of methane, ethane, butane, propane, and other gases.

CRITERIA AIR POLLUTANT - An air pollutant for which acceptable levels of exposure can be determined and for which the U.S. Environmental Protection Agency has set an ambient air quality standard. Examples include ozone (O₃), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur oxides (SO_x), and particulate matter (PM₁₀ and PM_{2.5}).

ENVIRONMENTAL JUSTICE - The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

ENVIRONMENTAL JUSTICE SCREENING METHOD - A screening approach for combining environmental and demographic indicators to inform agency outreach and engagement practices regarding environmental justice.

GRANT FUNDING OPPORTUNITY - Where the Energy Commission offers applicants an opportunity to receive grant funding for projects meeting the solicitation requirements.

LOCALIZED HEALTH IMPACTS - Potential project related health impacts from Energy Commission funded projects.

MICROMETER - One-millionth of a meter, equal to roughly 0.00004 inches.

NO_x - Oxides of nitrogen, a chief component of air pollution that is commonly produced by the burning of fossil fuels.

PARTICULATE MATTER - Any material, except pure water that exists in a solid or liquid state in the atmosphere. The size of particulate matter can vary from coarse, wind-blown dust particles to fine particle combustion products.

LIST OF ACRONYMS

AB	Assembly Bill
AQIP	Air Quality Improvement Program
ARFVTP	Alternative and Renewable Fuel and Vehicle Technology Program
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CNG	compressed natural gas
EJ	environmental justice
EJSM	Environmental Justice Screening Method
EMFAC	Emissions factor model
GFO	grant funding opportunity
JPA	Joint power of authority
LHI	localized health impact
NO _x	nitrogen oxide
PM _{2.5}	particulate matter; 2.5 microns or smaller in diameter
PM ₁₀	particulate matter; 10 microns in diameter
SB	Senate Bill
U.S. EPA	United States Environmental Protection Agency

APPENDIX A:

Localized Health Impacts Report Method

This LHI report assesses the potential health impacts on communities from projects proposed to receive ARFVTP funding. This LHI report is prepared under the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

“(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider EJ consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to the approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting.”

This LHI report is not intended to be a detailed pollution analysis of proposed projects nor is it intended to substitute for the environmental review conducted during CEQA. This LHI report includes staff’s application of the EJSM developed by the U.S. EPA to help identify projects in areas where social vulnerability indicators, high exposure to pollution, and greater health-risks are present.

Energy Commission staff identifies high-risk community project locations using data from CARB, the U.S. Census Bureau, and other public agencies. Staff analyzes these data to assign EJ indicators for each project location specified in the LHI report. The proposed project location must meet a two-part standard as follows:

Part 1 – Environmental Standard:

- Communities located within an air quality nonattainment zone for ozone, PM 2.5, or PM 10, as designated by the California Air Resources Board for criteria pollutants.

Part 2 – Demographic Standard:

- Communities having more than one of the following EJ indicators for (1) minority, (2) poverty, (3) unemployment, and (4) age. The EJ indicator thresholds is defined by staff as:
 - 1) A minority subset represents more than 30 percent of a given city’s population.

- 2) A city's poverty level exceeds the state average poverty level.
- 3) The city (or county if city data is unavailable) unemployment rate exceeds the state average unemployment rate.
- 4) The percentage of people living in a city who are younger than 5 years of age or older than 65 years of age is 20 percent higher than the state average for persons under 5 years of age or over 65 years of age.